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## Intentionality and Isomorphism in Aristotle

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The parallel Aristotle forges between *noêsis* and *aisthêsis* fissures at the seam of their material realizations: whereas the *aisthêtikon* has various organs, the *noêtikon* has none. The brief reason Aristotle offers for this disanalogy may seem initially quite unsatisfactory. To some, at any rate, Aristotle's claim that *nous* lacks an organ comes to little more than a low-level empirical *gaffe*.<sup>1</sup> He observes that the eyes, ears and other sense organs play a central role in *aisthêsis*. Not detecting any such role for the brain or other organ in *noêsis*, Aristotle supposes that *nous* lacks an organ altogether, and infers that it is therefore separate and unmixed with the body (DA 429a24-27, 429b4-5). Thus, his chain of inference leads rather haphazardly from a dubious empirical finding to an extravagant philosophical thesis about the nature of *nous*. One taking this approach might well conclude that since we no longer suffer under the same impoverished empirical limitations, we can safely set aside Aristotle's unfortunate conception of *nous* as immaterial, and turn our attention to those features of his concept of mind more germane to our own concerns.

Perhaps not many will agree with this simple, unflattering diagnosis of Aristotle's motivation for regarding *nous* as in some sense immaterial. Still, some things Aristotle claims might suggest such a motivation, including especially his remarks about how *nous* would come to be qualified, perhaps by being hot or cold, if it had an organ (DA 429b25-6). Moreover, if there is general agreement that Aristotle does not reserve a special status for *nous* on the basis of a misguided empirical belief, there is little agreement about the genuine source of his reservation. Aristotle has some qualms about regarding thinking and perception as directly analogous, even though the same general account of form assimilation covers both. In this paper I investigate one central source of Aristotle's dissatisfaction with a comprehensive analogy between *aisthêsis* and *noêsis*. I will argue that his conception of *nous* as organless is neither empirically motivated nor

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<sup>1</sup>Wilkes (1978) typifies this approach. See also Hartman (1977).

obviously misguided. On the contrary, Aristotle's insistence that *nous* is separate and unmixed with the body is grounded in an approach to intentionality nascent in his treatment of *noësis*.<sup>2</sup> This approach to intentionality helps motivate the special status he awards *nous*.

### I. *Nous* is Unmixed with the Body

Perception and thinking are alike in that the same model of form-reception covers both. In perception, as in thinking, some human faculty receives a form in such a way that the relevant psychic capacity is affected in a certain way (*paschein ti*).<sup>3</sup> "If, then, thinking is just as perceiving <is>," Aristotle suggests, "<it will involve> a certain sort of being affected either by the object of thought or something else of this sort" (DA 429a13-15). Aristotle evidently endorses the antecedent of this conditional (DA 427a8, 431b28-32a3), even though the analogy does not hold in all particulars. Indeed, Aristotle had issued a warning to this effect earlier, in *De Anima* ii 5, where he suggested that thinking is up to us in a way in which perception is not (see especially 417b16-29, a passage which closes with a forward reference,

<sup>2</sup>This paper is drawn from a larger work, where I undertake a more general analysis of Aristotelian intentionality; I do not attempt such an analysis in this paper. Rather, I seek to ground the peculiar status Aristotle confers on *nous* in a plausible central feature of his approach to the intentionality of the mental. For a comprehensive, if problematic, account of Aristotelian intentionality, see Brentano (1867/1977). I sketch some of the fundamental difficulties for Brentano's account below in § IV.

<sup>3</sup>With the locution *paschein ti*, Aristotle might intend one of three things, of which only the first two have been recognized. If the indefinite *ti* is an accusative object of *paschein*, Aristotle means (i) in thinking *nous* suffers something; if, by contrast, *ti* is a noun agreeing with *paschein*, Aristotle means either (ii) thinking is a kind of being affected, or (iii) thinking is a being affected—kind of (that is, thinking is akin to being affected, but not quite a proper instance of it). See in addition to DA 429a14, 410a25, 427a20, 427b2, and *de Part. An.* 641a36. The ambivalence expressed at DA 417b2-16, and esp. at b6-7 and b15-16, suggests that Aristotle probably intends (iii). Distinguishing between (i) and (ii) only, Hicks (1907, 292) thinks nothing much turns on the matter; he explicates Aristotle's ambivalence merely in terms of something's being affected by being annihilated by its opposite versus something's being changed by having one of its potentialities preserved and perfected. Since (iii) is a possibility, Aristotle's ambivalence may be more extreme: perhaps *noësis* is not a proper kind of being affected at all, even though it is explicable in terms of the same principle of form receptivity operative in *aisthêsis*, where there is in every case a genuine concomitant affection.

promising the sort of discussion DA iii 4 delivers). Nonetheless, Aristotle holds that for both thinking and perception, it is at least necessary that the relevant psychic faculty be affected in a certain way by its object. Hence, without some form of interaction with an *aisthêton*, *aisthêsis* is impossible. Similarly, subject to a possible qualification,<sup>4</sup> without some formal interaction with a *noêton*, *noêsis* will not occur.<sup>5</sup>

Even so, the general model of form-reception appropriate to both *aisthêsis* and *noêsis* requires tailoring if it is to be applied more specifically to the distinct psychic activities of perceiving and thinking. For *nous* is unlike the perceptive faculty in that it is not mixed with the body. If perception involves the reception of a sensible form without its matter (DA 417a10-27), where this involves a certain organ's being *informed* in virtue of its being affected by some *aisthêton*, then *aisthêsis* is at least initially explicable in terms provided by Aristotle's standard model of hylomorphic change: something potentially informed by F-ness comes to be actually informed by F-ness in virtue of its suffering a certain process at the hands of some agent.<sup>6</sup> Of course, how this process is to be unpacked and understood is a matter of some controversy; central to any discussion must be the question of whether the sense organ's being affected in the appropriate way is *sufficient* for perception, and if so, whether, more strongly, *aisthêsis* simply consists in such affection.<sup>7</sup> These difficult questions notwithstanding, the application of the hylomorphic model of change to *aisthêsis* has some initial appeal—or at least as much appeal as the hylomorphic model of change has generally.

<sup>4</sup>Some qualification may be necessary because of the perplexing rider that *noêsis* occurs only if *nous* is affected in a certain way by a *noêton* or "something else of this sort" (*ti toiouton heteron*; DA 429a14-15). The alternative dangled is somewhat unclear, since although he is presumably worried about the mode of affection in question, Aristotle may equally be concerned about the status of the *noêton* (or *noêta*) required for individual acts of thinking.

<sup>5</sup>This claim should not be construed in such a way that it commits Aristotle to any form of externalism about mental content. Thus far, Aristotle has said nothing more than that thoughts must have contents; an inference to externalism would require minimally a conception of *noêta* not accepted (or not obviously accepted) by Aristotle. For a useful discussion of externalism, see McGinn (1989).

<sup>6</sup>Here the terms of the analogy advanced in DA iii 4 make clear that the *aisthêtikon* is affected *hupo tou aisthêton* in an instance of *aisthêsis*.

<sup>7</sup>See Slakey (1961), Sorabji (1971), (1974), and (1992).

Already at this basic level, however, a difference between *nous* and the *aisthêtikon* emerges.<sup>8</sup> What is potentially F in *aisthêsis*, what is available as the material substrate, are the organs themselves.<sup>9</sup> In striking contrast, *nous* is "none of the things existing in actuality before thinking" (*outhen estin energeia(i) prin noein*; DA 429a24). Aristotle's peculiar contention in this regard upsets the analogy he elsewhere endorses. Because *nous* is nothing in actuality before thinking, it is hard to understand how the hylomorphic analysis of change and affection could be brought to bear in this arena. When some clay receives a form, a compound comes into being. When a sense organ receives the form of the *aisthêton*, *aisthêsis* can occur. What receives the form of the *noêton*? Nothing in actuality is potentially the form of the *noêton*. More precisely, nothing called *nous* is in actuality and is such as to be potentially the form of the *noêton* before actual thinking occurs. This entails that before thinking there is either nothing in actuality capable of receiving the form of the *noêton*, or that although there is something in actuality capable of receiving the form, it is something other than *nous* itself. On the first alternative, there is evidently nothing at all in actuality which then suddenly exists in actuality at the moment of *noêsis*. On the second alternative, there is something in actuality which is potentially the *noêton* but (i) it is not *nous* before the moment of *noêsis*, or (ii) it never becomes, but only engenders, *nous* at the moment of *noêsis*. Each of these possibilities carries its own peculiarities. More importantly, every one of these possibilities suggests an approach at odds with the analysis of *aisthêsis*, which is given in terms of the hylomorphic model of change. Indeed such an account of "being affected in a certain way" seems hardly amenable to the hylomorphic model of change at all: where there is nothing antecedently to be affected, it is hard to see how something is reasonably held to have been affected in the course of *noêsis*. It is therefore difficult to appreciate how Aristotle means to deploy the hylomorphic model in his analysis of *noêsis*, or to understand why he has not simply overtaxed this model by trying to implement it in a domain recalcitrant to its own requirements.

<sup>8</sup>Aristotle treats *nous* as parallel to the *aisthêtikon* (as opposed to *aisthêsis*) in several passages. See, e.g., 402b13, 410b22 and 429b17.

<sup>9</sup>This at any rate seems to be the implication of the first lines of DA ii 12, especially 424a24-26: "It is primarily the sense organ (*aisthêtêrion*) in which this capacity is [that is, the capacity to receive sensible forms without matter]."

This initial lack of fit recommends a closer look at Aristotle's motivation for distinguishing between *noësis* and *aisthêsis* in the first place. His motivation emerges, though none too clearly, in the following compressed chain of inferences in *De Anima* iii 4:

Necessarily, then, since it thinks all things, *nous* is unmixed, just as Anaxagoras says, so that it may rule—but this is so that it may come to know. For something foreign interposing <itself> hinders and wards <it> off, so that its nature is nothing other than this, that it is something potential. Hence, the part of the soul called *nous* (I mean by *nous* that by which the soul thinks and conceives) is none of the things existing in actuality before it thinks. Wherefore neither is it reasonable <to say> that it is mixed with the body; for then it would come to be qualified in a certain way, either cold or hot, or would even have an organ, just as there is for the perceptive faculty. But as it is, there is nothing (*DA* 429a18-27).

Central to this entire line of reasoning is Aristotle's contention that *nous* thinks all things. Generally, since *nous* can take on any form, it must not be so constituted that its own intrinsic nature would preclude its carrying out its operation. I will refer to this claim as the Plasticity Requirement, which we can set out as a first approximation as follows:

PR: *Nous* has no intrinsic feature capable of precluding its thinking any given *noëton*.

Thus stated, PR is not equivalent to the striking claims (i) that *nous* is nothing in actuality before thinking; (ii) that its nature consists in its being potential; or (iii) that it is unmixed with the body. Nor does Aristotle suppose that these claims are equivalent. He rather seeks to *infer* these doctrines from PR, or from an argument in which PR serves as a central premise.

Consequently, whatever its ultimate credentials, Aristotle's contention that *nous* is unmixed with the body is clearly not motivated in any direct way by a bland empirical observation about the brain, heart, or other central organ. On the contrary, the claim is that since it is nothing in actuality before thinking, *nous* cannot be mixed with the body. Presumably, then, Aristotle supposes that its being nothing in actuality provides sufficient grounds for denying that *nous* is mixed with the body. Its not being qualified in any way is not then adduced as independent evidence that it is not mixed with the

body. Rather, Aristotle adds this clause in order to shore up the inference from:

(P<sub>1</sub>) Before thinking, *nous* is none of the things which exist in actuality

to:

(C) *Nous* is not mixed with the body.

The structure of the argument seems to be:

(P<sub>1</sub>) Before thinking, *nous* is none of the things which exist in actuality.

(P<sub>2</sub>) If *nous* were mixed with the body, it would come to have some quality or other, e.g. hot or cold.

(P<sub>3</sub>) Moreover, if *nous* were mixed with the body, it would (like the *aisthêtikon*) have an organ.

(P<sub>4</sub>) If *nous* is none of the things which exist in actuality before thinking, it cannot come to have some quality or have an organ.

(C<sub>1</sub>) Hence, *nous* cannot come to have some quality or have an organ.

(C<sub>2</sub>) Hence, *nous* is not mixed with the body.

On this construal, Aristotle uses the observations about the possibility of there being an organ for *nous*, or its being qualified in some way, as a bridge to the conclusion that it is not mixed with the body. He does not even claim independently in this context that *nous* lacks an organ or that it cannot be qualified. Rather, he offers only the hypothetical claim (P<sub>4</sub>) that if it is nothing in actuality before thinking, *nous* cannot have an organ or be intrinsically qualifiable. Hence, since he does not advance the consequent of (P<sub>4</sub>) as an independently verified premise, Aristotle cannot mean it to be justified by some considerations beyond those given in the passage. Hence, he cannot intend it to be justified on any empirical grounds, spurious or otherwise.

That Aristotle's approach is *a priori* rather than empirical should on reflection be unsurprising. Near the end of *De Anima* ii 1, Aristotle had raised the possibility that some part of the soul might be separate, by connecting the issue of separation with being an actuality (*entelecheia*) of a body:

That the soul is not separate from the body—or some of its parts if it is naturally partite—is not unclear. For the actuality of some of them is

<the actuality> of their <appropriate bodily parts>.<sup>10</sup> Still, nothing prevents some of them <from being separate>, because of their being the actuality of no body (DA 413a3-7; cf. 408a12, 411b18).

Here Aristotle relates the soul's being separate from the body to its being the actuality of a body. Something's being the actuality of the body is sufficient for its not being separate, since Aristotle infers the non-separability of some parts of the soul from their being the actuality of some bodily part. Moreover, so long as something is not the actuality of a body, it may be separate from the body. When Aristotle later seeks to infer the conclusion that *nous* is not mixed with the body from its not being anything in actuality, we merely see him re-affirming what he has said earlier by establishing the truth of a narrower claim by grounding it in one which is more encompassing. If *nous* is none of the things which exist in actuality before thinking, then, trivially, it is not the actuality of any body, at any rate not before thinking.

This interpretation frees Aristotle of an ill-motivated empirical grounding for a controversial philosophical thesis, but only by treating his remarks about the possibility of there being an organ for *nous*, or its being qualified in some way, as dependent on considerations pertaining to its actuality rather than as independently motivated by observation. Consequently, this interpretation may seem at odds with the clause which follows immediately upon Aristotle's introduction of the possibility of there being an organ for *nous* or its becoming qualified in some way. For he has seemed to some to observe directly that there is no organ for *nous*. As he says: *nun d'outhen estin*..= If Aristotle here simply asserts that there is no organ for *nous*, then this vitiates my contention that he never offers the claim that *nous* lacks an organ as an independent premise in the argument. And this is surely how he has been understood.<sup>11</sup>

Yet this is not Aristotle's point. He does not here simply assert that *nous* lacks an organ. Rather, he underscores what he has said earlier, that *nous* is none of the things which exist in actuality before it thinks. The phrase *nun d'outhen estin* does not mean "but as a matter of fact it has

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<sup>10</sup>Here I suppose the inference requires *enîôn* to be taken closely with the *merê tina autês* at 413a4, while *merôn estin autôn* looks forward to the *sômatos* at 413a7.

<sup>11</sup>Many commentators have understood him this way; some views are collected by Hicks (1907, 482).



none"<sup>12</sup> or "but as things are it has none".<sup>13</sup> It means, instead, "as it is, it is nothing". When he claims that *nous* is none of the things existing in actuality before thinking and infers that it is not mixed with the body, Aristotle cements the inference by pointing out that if *nous* were the actuality of anything at all, it would be the actuality of an organ. He then infers that it is not mixed with the body, since it is not the actuality of any organ. Finally, he punctuates the argument by reaffirming its driving premise, that *nous* is nothing in actuality before thinking. Hence, this closing phrase does not undermine the interpretation I have offered. On the contrary, it provides additional support for the claim that *nous*, being nothing in actuality before thinking, is hardly the actuality of any body; it is therefore not mixed with the body.

## II. *Nous* is Nothing in Actuality before Thinking

Aristotle argues that *nous* is unmixed with the body, because of its being nothing in actuality before thinking. His ground provided here is apt to bewilder us. If it is nothing in actuality before thinking, how does *nous* come to be something when thinking? Does *nous* come to be something when thinking? In either case, what would incline us to accept such a claim? Aristotle himself does not introduce this thesis as obvious or as justified by any simple appeal to our intuitions about *nous*. Rather he represents it as itself an inference from a previous set of premises, as an interim conclusion in a larger argument.<sup>14</sup>

This interim conclusion is evidently to be derived from PR, the claim that *nous* lacks any intrinsic feature capable of hindering its thinking any given *noêton*. Recall Aristotle's chain of inference to this point:

Necessarily, then, since it thinks all things, *nous* is unmixed, just as Anaxagoras says, so that it may rule—but this is so that it may come to know. For something foreign interposing <itself> hinders and wards <it> off, so that its nature is nothing other than this, that it is something potential. Hence, the part of the soul called *nous* (I mean by *nous* that by which the soul

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<sup>12</sup>Hicks (1907, 131)

<sup>13</sup>Hamlyn (1968).

<sup>14</sup>Note the *ara* at 429a22.

thinks and conceives) is none of the things existing in actuality before it thinks (DA 429a18-24).

Here Aristotle seeks to infer:

(C) *Nous* is nothing in actuality before thinking.

from:

(P) *Nous* thinks all things.

Unfortunately, the progress of his argument is not immediately obvious.

Perhaps Aristotle reasons as follows. Since it thinks all things, *nous* is unmixed, in an Anaxagorean sense. The relevant fragments of Anaxagoras do not tell us much about the sense of *amigê* Aristotle has in mind; and in any case, Aristotle himself appropriates Anaxagoras' position rather remorselessly by glossing *hina kratê(i)* as *hina gnôrizê(i)* (429a19-20).<sup>15</sup> As unmixed, *nous* has no nature other than this: that it is potential. Lacking any other nature, it is nothing in actuality before thinking.

If this is his point, we can represent Aristotle's argument as follows:

(P1) *Nous* thinks all things.

(P2) If it is to think all things, it is necessary that *nous* be unmixed.

(C1) Hence, *nous* is unmixed.

(P3) If *nous* is unmixed, its nature must be nothing other than being potential.

(C2) Hence, its nature is nothing other than being potential.

(P4) If its nature is nothing other than being potential, *nous* must be nothing in actuality before thinking.

(C3) Hence, *nous* is nothing in actuality before thinking.

(C3) is, of course, simply that first premise of the argument whose conclusion ultimately concerns us, that *nous* is not mixed with the body.

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<sup>15</sup>The relevant fragment is 12 D, where *nous* rules the rotation of the universe and structures its temporal order. As I suggest in the text, the degree to which Aristotle accepts anything substantive from Anaxagoras is unclear. What is clear is his penchant for citing Anaxagoras in similar contexts, including DA 405a6. Some insight into his fondness for Anaxagoras's conception of *nous* is provided by *Phys.* 256b24, where Aristotle links being *amigê* to ruling in the way that *nous* is said to rule. In this passage too, however, Aristotle molds and updates the Anaxagorean *nous* for his own purposes. It is noteworthy in the *Phys.* Aristotle endorses the inference from its ruling to its being *amigê*, without endorsing the antecedent of the conditional, namely that *nous* rules. When he later supplants *kratein* with *gnôrizein*, Aristotle evidently distances himself from Anaxagoras' conception. Brentano (1867/1977, 225 n. 14) rightly downplays the Anaxagoras' influence.

The move from (P4) to (C3) may seem obvious. If *nous* has no nature other than being potential, surely it is nothing in actuality before thinking. Yet this inference is not in all ways obvious. Surely something could be potentially a mature member of the species—could have an unactualized nature—without therefore being nothing in actuality. A boy is potentially a mature member of his species, but is not actually so. Still, we should be hard pressed to deny that the boy was something actual before growing to maturity. At any rate, unless we meant something quite restricted by *outhen estin energeia(i) tôn ontôn*, we would be unlikely to insist that an immature boy was nothing in actuality simply in virtue of his not being a fully actual human being. Moreover, if we mean something quite restricted by this phrase, then the claim that *nous* is nothing in actuality before thinking loses all (or most) of its distinctiveness. For in this case it would mean simply that *nous* is not thinking some actual thought before thinking, a claim with an air of dreary triviality about it.

Presumably Aristotle intends the more distinctive claim. If so, when he claims that it has no other nature than being potential, Aristotle supposes as an ancillary hypothesis that *nous* has no actual characteristics which do not pertain to its nature. For if *nous* has no nature other than being potential and has no properties adhering to it beyond those which pertain to its very nature, then Aristotle will be justified in moving from (P4) to (C3). He will, moreover, have argued for the distinctive claim that we had expected.

There is a cost associated with this reconstruction. For now (C2) carries more weight than it otherwise would have, and so is justifiably inferred from (P3) only on a robust understanding of (C1), the initial claim that *nous* is *amigê*. This claim in turn is justified only if the initial premise, that *nous* thinks all things, is suitably strong. It is therefore this first premise which carries most of the weight of the entire argument sequence.

### III. *Nous* Thinks All Things

When he claims that *nous* thinks all things, why does Aristotle not claim something manifestly false? On the assumption (justified, I believe, by 429a10) that *De Anima* iii 4 concerns the human *nous*, then it is false that *nous* thinks all things. A given human *nous* is limited in time and power, and as Aristotle remarks elsewhere (*EN* x; *Meta.* xii), it is not the case that we are always in a position to exercise *nous*. I think some things at some times; at no time do I think all things; and even compiling all things I think throughout my temporally-bounded life span, I hardly think all the *noêta* there are to think. Indeed, compiling even all the thoughts of all the humans who ever lived or will live, then, at least on some contruals of how we might individuate *noêta*, it remains false that *nous* thinks all things.

If this is correct, then, Aristotle's contention must be something other than the clearly false claim that *nous* thinks everything. It must rather be the claim that there is no *noêton* which is such that it cannot be thought by *nous*. This claim would implicate Aristotle in two others, corresponding to the relata of a given instance of *noêsis*. The first concerns the structure of *noêta*:

SN: Every *noêton* must be such that it can be thought, in principle, by an ideally rational human *nous*.

Second is a claim about the structure of human *nous* itself:

HN: An ideally rational human *nous* must be so structured that it can, in principle, apprehend any given *noêton*.

The first claim speaks to features of Aristotle's metaphysical realism,<sup>16</sup> insofar as it contends that the structure of the universe is such that it can be apprehended. The second, co-ordinated claim speaks rather to the nature of *nous* itself. Because of its consequences for the sense in which *nous* is unmixed with body, I will focus on this second claim (HN).

It may seem that HN is also clearly false. It may seem, indeed, an embarrassment for Aristotle, since once again empirical limitations make it clear that a massively complex *noêton* could not be grasped by *nous* in the span of a human life. (For example, perhaps the solution to the four-color theorem would require so much raw computational power that no *nous*, no matter how idealized, could contemplate it in the span of a life.) This may

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<sup>16</sup>On Aristotle's metaphysical realism, see Irwin (1988, § 2).

simply indicate, however, that Aristotle's point is conceptual rather than empirical in character. That is, he is not insisting that for any given *noêton* there exists some human such that that human could in fact cognize that *noêton*. Rather, he means to suggest only the weaker hypothesis that for any given *noêton*, nothing about the intrinsic character of *nous* itself precludes its being cognized. That is, he is making a point about the structure of *nous* and the limitations that structure would place on its operations. And he is claiming that it is possible that an ideally rational *nous* can think anything intelligible. Putative *noêta* of infinite complexity, if there are such, present no serious problem here, since empirical limitations do not undermine the conceptual possibility Aristotle envisages.

Still, since Aristotle baldly asserts HN, we are entitled to wonder what justification he has for it. The issue is pressing, since on the construal of his overarching argument I have offered, HN is the only premise not inferred from something else, and is thus the one premise whose truth cannot be determined at least in part on the basis of inferential warrant. Of course, Aristotle may simply take it as obvious; or he may have other reasons for asserting it which are not recapitulated in this portion of the *De Anima*. In either case, both the correctness and indeed the very character of Aristotle's ultimate conclusion turn on this claim.

#### IV. The Genesis of Aristotle's Concern: Brentano

Thus far I have suggested negatively that Aristotle's concern in *De Anima* iii 4 cannot be understood as flowing from a simple empirical error. I have, moreover, suggested a direction for understanding his true concern. Aristotle's argument is driven by what I have called PR, the plasticity requirement, that *nous* has no intrinsic properties incompatible with its thinking any given *noêton*. I am of course not alone in suspecting that Aristotle's real motivation lies in some concern about the operation of *nous*. Brentano famously held that Aristotle's reservations concerning *nous* stem from peculiar features of *noêta*, features required to understand their availability as objects of *noêsis* about which a given *noêma* could be.<sup>17</sup>

In *Psychology from an Empirical Standpoint*, Brentano understood Aristotle to be relying on a distinction between two ways a person might be

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<sup>17</sup>Brentano (1874/1973).

said to take on a certain quality.<sup>18</sup> In Brentano's terminology, my hand is *physically* cold when it takes on a measurable temperature lower than its average. Even when my hand is physically cold, I may not perceive cold; when I do, Brentano holds that I have taken on the coldness *objectively*. For early Brentano, this follows directly from the thesis that every psychic state is intentional in character, that is, that every psychic state is analyzable relationally into act and object. Armed with this distinction, Brentano argues that Aristotle's point at *De Anima* 429a24 must be as follows. Aristotle does not mean that the mind's being mixed with the body in the sense of its becoming physically cold would somehow interfere with its becoming objectively cold; for clearly something can be both physically and objectively cold, as indeed some person could be physically cold while being objectively hot. Instead, if *nous* were mixed with the body, it would need to have some particular quality objectively in each of its operations. That is, if mixed with the body, *nous* would perforce have a special object in the way that each of the senses does. Yet there is no special object for *nous*. It can think all things. Therefore, *nous* is not mixed with the body.

Brentano's conjectural reconstruction merits consideration. Something can be F in either of two ways. Let us translate from Brentano's preferred idiom by saying that something can either *exemplify* or *encode* F-ness.<sup>19</sup> Some subject exemplifies F-ness when it instantiates F-ness in a direct, non-metaphorical way. So, grass exemplifies greenness. By contrast, something encodes F-ness when it represents F-ness without itself becoming F in any direct or literal way. If I dream of a man in a yellow hat, some state of my brain encodes the wearing of a yellow hat; no part of my brain wears a hat, and no part of my brain becomes yellow. Representation generally may encode rather than exemplify. A mental representation of Baudelaire does not have a floppy mustache, and so does not exemplify the property of having a floppy mustache. It may nevertheless encode this property in its representation of Baudelaire. Brentano's point is not, as one would expect, that if mixed with the body *nous* would necessarily exemplify some property,

<sup>18</sup>Brentano (1874/1973, 80-89, 112-148). The earlier Brentano (1867/1977, 77-80, with 229 n. 23) is not quite as crisp.

<sup>19</sup>On exemplification and encoding, see Zalta (1984) and (1988). See also Findlay (1933) for a discussion Mally's (1912) distinction between *erfüllen* and *determinieren*, which prefigures Zalta's exemplifying and encoding.

with the result that it would be hindered in its operations. (This might be what one would expect him to make of 429a20-21). He argues instead that if *nous* were mixed with the body, there would be some property or other which *nous* would necessarily encode in all of its operations. This would hinder its operations, rendering it incapable of thinking all things.

Crucial to Brentano's understanding of the passage, therefore, is the claim that there is no one domain of properties every act of intellectual cognition necessarily encodes. By contrast, every operation of *aisthêsis* necessarily encodes some feature its peculiar object exemplifies (DA 418a11-15, 424a17-27). Every sense operation occurs by the action of a peculiar object, an *idion*, on a sense organ. Thus, every act of seeing involves the faculty of sight's being affected by some color, every act of hearing involves the faculty of hearing's being affected by some sound, and so forth. Moreover, each act of sensation involves a mean between excesses, a situation which prevents the sense from perceiving things exemplifying properties of the mean (DA 424a2-10). As Aristotle maintains:

For this reason we do not perceive anything which is equally as hot or cold <as the sense organ>, or <as> hard or soft, but rather excesses of these, since perception is a sort of mean between the opposites present in objects of perception. . . And just as that which is to perceive white and black must be neither of them in actuality, although both of them in potentiality (and so too for the other senses), so in the case of touch, that which is to perceive must be neither hot nor cold (DA 424a2-9).

Here Aristotle suggests that the senses have blind spots. If *nous* is similar, perhaps it too has blind spots. Since it thinks all things, *nous* must be the case that it does not encode any property in virtue of its operation as such. For then too it would be blind to objects exemplifying that property.

Brentano's explanation of Aristotle's motivation for regarding *nous* as unmixed with the body is unpersuasive.<sup>20</sup> He seems to argue that if *nous* encodes a given property necessarily in all of its operations, then it, like sense perception, would fail to apprehend any object which exemplified that

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<sup>20</sup>For a more sympathetic appraisal, see George (1978, 252).

property.<sup>21</sup> Here there are two problems. First, it is not the case that what encodes F-ness cannot also represent what exemplifies F-ness. A bust of Aristogeiton encodes the property having mass; it also exemplifies this property; and it also represents what exemplifies this property. Although a representation need not, and typically will not, exemplify what it represents as exemplifying, it may. In order to show that there is something which *nous* could not think if it necessarily encoded some property in all of its operations, Brentano would need to establish the strong thesis that if something encodes F-ness, it cannot also represent what exemplifies F-ness. Since a representation may do this by itself exemplifying F-ness, or indeed by necessarily encoding what it happens on an occasion to represent as exemplifying, Brentano cannot establish this stronger thesis.

Moreover, it is necessary to recall what motivates Aristotle's point about limitation on the range of *aisthêta* which are perceptible by *aisthêsis*. The examples which seem to support his contention evidently do not turn on whether a given sense organ necessarily encodes the property its *idia* exemplify insofar as they are *idia*. Rather, the examples suggest that if a given organ exemplifies a property it should come to encode, then there will be no way for it to be affected by the *aisthêton* in question. Consequently, the point seems essentially to turn on Aristotle's conviction that sensation is a *paschein ti*. Although something representing what is black can both encode and exemplify something black, nothing exemplifying black can be made to become black in the sense of being made to come to exemplify blackness. For what is black cannot change into what is black. Even so, something exemplifying, e.g., grey, can be made to come to represent something which exemplifies grey by being made to come to encode greyness. Thus, if a brain were in fact grey, it might come to encode the greyness of a grey cat by whatever system of representation it employs. Hence, to the degree that Aristotle's contentions about perceptual blind spots are justifiable, this must be due to the fact that the sense organs exemplify certain properties

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<sup>21</sup>Perhaps Brentano is not always consistent on this point. I am here focusing on his discussion in (1874/1973), and agreeing in broad outline with George's (1978) reconstruction of his argument. Brentano (1867/1977) does not agree in all particulars with the later work, and in some places seems to lapse into circularity (see esp. 1867/1977, 77-80). Still less in accord with this picture are some of the remarks about this subject in Brentano's letters, as recounted by Spiegelberg (1978).



(including, e.g., certain temperature properties) and therefore cannot be made to come to exemplify those properties by an *aisthêton* which exemplifies them.

If this is correct, Brentano's contention that an embodied *nous* would necessarily encode some property in all its operations, in effect that there would be some *idion* for *nous* just as there is for perception, does not provide any warrant for Aristotle's claim that *nous* is unmixed with the body. For something could be mixed with body and still satisfy the demands for representational plasticity required to think all things. Since what exemplifies F-ness can come to encode F-ness, just as what encodes F-ness can exemplify F-ness, Aristotle's point does not seem to turn on the object-directedness of *nous* together with a thesis about the lack of an *idion* for *nous*. Therefore, Brentano's account of *De Anima* 429a fails to provide any warrant for Aristotle's striking thesis that *nous* is unmixed with the body.

#### V. Isomorphism in Intentionality

Although ultimately unconvinced by his account of Aristotle, I am in general sympathy with Brentano's approach. In particular, I am sympathetic to the suggestion that intentional features of intellectual cognition help explain Aristotle's contention that *nous* is unmixed with the body, and therefore unlike the *aisthêtikon* in some important respects.

What are these features? Initially, Brentano formulated a three-part thesis of intentionality: (i) all and only mental phenomena make reference to or are directed upon an object; (ii) no physical phenomenon makes (intrinsic) reference to or is directed upon an object; and (iii) the objects upon which mental phenomena are directed occupy a strained ontological position insofar as they have "intentional inexistence". Brentano came to reject (iii), and was severely criticized by Husserl for the broad scope of (i).<sup>22</sup> Others have attacked his peculiarly narrow conception of an object as an individual particular.<sup>23</sup> Purged of these somewhat idiosyncratic features introduced by the early Brentano, the thesis of intentionality becomes: (i) only mental phenomena

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<sup>22</sup>Husserl (1900/1970). See also Bealer (1993) and Zalta (1990).

<sup>23</sup>Bealer (1993).

make reference to or are directed upon a object;<sup>24</sup> and (ii) no purely physical phenomenon is directed upon or makes reference to an object. For brevity's sake, I will refer to the thesis of intentionality as the thesis that only non-physical, mental phenomena are about things.

Following Brentano, we may speak of the problem of intentionality in our context as Aristotle's *thesis* of intentionality (on the basis of, e.g., *Meta.* 1074b35). Still, some caution is required here. First, when we speak of the problem of intentionality, we usually have in mind a nest of distinct but related problems beginning but not ending with the simple question of whether either or both parts of the thesis of intentionality turn out to be true. More often, philosophers have wanted to determine whether, if (i) is true, one can provide an analysis of the aboutness of the mental, or whether it must be accepted as a primitive thesis about the mental.<sup>25</sup> Most often today, philosophers are concerned especially with the question of whether, if (i) is true, (ii) is also true, that is, whether there is a reductive or physicalistically adequate account of the aboutness of mental phenomena.<sup>26</sup>

Some of these concerns are clearly not Aristotle's. In particular, he displays no interest in the question of whether a physicalistically adequate account of the aboutness relation can be developed. Even so, this does not entail that he has no interest in offering an account of aboutness or in relying on the aboutness of the mental in analyzing *noësis*. As I understand his method in the *De Anima*, Aristotle wants to provide an account of the intentional feature of noetic states in terms of their being isomorphic with their object.<sup>27</sup>

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<sup>24</sup>I here leave unaddressed the question of whether *all* mental phenomena are intentional in character. This question turns partly on the breadth of the notion of *object* we are prepared to tolerate.

<sup>25</sup>See esp. Chisholm (1957), Bealer (1993), Parsons (1982), and Zalta (1988).

<sup>26</sup>See Schiffer (1987). Some philosophers simply presume from the outset that no reductive analysis of intentionality, physicalistic or otherwise, is possible. Searle (1983, 26) provides a good example: "In my view it is not possible to give a logical analysis of the Intentionality of the mental. . . There is no neutral standpoint from which we can survey the relations between Intentional states and the world and then describe them in non-Intentionalistic terms. Any explanation of Intentionality, therefore, takes place within the circle of Intentional terms."

<sup>27</sup>See n. 2 above.

One passage in particular is relevant here. In *De Anima* iii 4, Aristotle maintains:

Now, if thinking is akin to perceiving, it would be either being affected in some way by the object of thought or something else of this sort. It must then be unaffected, but capable of receiving the form, and potentially such as it, but not identical with it (*DA* 429a13-16).

Here Aristotle simply draws out one of the features of the analogy with *aisthêsis* he accepts. Just as perception consists in the reception of perceptible forms (*DA* 424a17-27), so thinking consists in the reception of intelligible forms.

In committing himself to this feature of the analogy between *aisthêsis* and *noêsis*, Aristotle adopts a thesis of isomorphism:

(I) The mind is one in form with its objects.

In accepting (I), Aristotle does not yet accept any more substantive thesis that a given state of mind is about an object by being isomorphic with it. Nor does he issue any general claim to the effect that aboutness as such is to be analyzed in terms of isomorphism. Nonetheless, we have the general claim that when *S* thinks *o*, where *o* can be a particular individual in Brentano's sense or a more structured composite semantic unit, *S*'s doing so is to be explained by a formal state of *S* which *S* shares with *o*.

Now, when asserting that *nous* must be receptive of a form (*dektikon tou eidous*), Aristotle's contention is crucially ambiguous, between a stronger and a weaker hypothesis. He argues that *nous* and its objects are one in form. Or rather, he claims that "the actuality of that which is sensed (*to aisthêtou*) and sensation is one and the same" (*DA* 425b26). Given the terms of the analogy between *aisthêsis* and *noêsis*, this requires that the actuality of the *noêton* and the mind are one and the same. This in turn suggests a surprisingly strong conception of isomorphism: the form of what thinks is numerically the same as the form of what is thought in actuality when *noêsis* occurs. Aristotle seems to embrace this picture when claiming that "the soul is, in a sense, all things which exist, for these are either perceived or thought" (*DA* 431b21-2).

On this strong thesis of isomorphism, what thinks and what is thought are isomorphic in a limiting sense of being numerically one and the same. Most noteworthy about strong isomorphism is that it suggests an arresting

approach to aboutness: in *noësis*, a state of S is about an object o because the form of that state is the form of that object. This is noteworthy because it treats isomorphism as non-representational. The state of S directed upon o does not merely represent o, but rather becomes the form of o itself.

Precisely in virtue of its arresting non-representationalism, strong isomorphism has proven attractive to many.<sup>28</sup> Lear, for example, suggests:

The perceptible object and the corresponding sense faculty stand to each other as two potentialities which have a single actualization. The perceptible object has the capacity to be perceived, the sense-faculty has the capacity to perceive. The single actualization is the act of perceiving—and this occurs in the perceiver. . . This higher-level actuality of sensible form can occur only in a sense faculty. Thus the highest level of actuality of perceptible form occurs not in the perceptible object, but in the sense faculty of a being who is perceiving the form.<sup>29</sup>

The same holds true, *mutatis mutandis*, of *noësis*. A given object of thought is most fully actual when cognized. The form of a frog, as Lear claims, is not fully actual when that frog is engaging in archetypal froggy behavior, but when it is actualized in a mind contemplating that frog. Isomorphism is numerical identity. States of mind are about objects because they are those objects in their highest states.

This suggests an odd, non-representational account of isomorphism, one centrally at variance with the account Brentano offers. Perhaps one advantage of strong isomorphism is its ability to undercut a persistent tendency to rely on a primitive notion of similarity in explaining isomorphism.<sup>30</sup> This is problematic for a host of familiar reasons, including:

<sup>28</sup>See Anscombe and Geach (1961) and Kosman (1975).

<sup>29</sup>Lear (1988, 103).

<sup>30</sup>Cummins (1989, 4) understands Aristotle this way: "The basic idea behind [Aristotle's] theory is that to know something is, in a pretty straightforward sense, to *be* it. . . Your mind literally *is* just what the physical stuff is, because to *be* red and spherical is just to be inFORMed by redness and sphericity. . . To represent the world is to have a model of it in (on?) your mind—a model made of different stuff, as models usually are, but a model just the same. . . According to this theory, representation is evidently founded on similarity (shared properties)—a similarity the theorist can just *see*." Cummins rightly rejects Aristotle's theory so construed. I doubt the theory advertised is in fact Aristotle's.

(i) data structures need not resemble what they represent (the equations of analytical geometry do not look like figures); and (ii) similarity short of exact duplication is always to some degree perceiver relative, with the result that similarity collapses into perceived similarity, and thus into the kind of intentional relation it was meant to explain in the first place.<sup>31</sup>

However that might be, Aristotle himself does not endorse strong isomorphism. In any number of passages, he limits the degree to which he is willing to identify the forms of an informed *nous* and its correlative *noêton*. Our first indication is the caution Aristotle exercises occurs in the very statement of his theory: "The soul is, in a sense, all things which exist, for these are either perceived or thought" (DA 431b21-2). The soul is in a sense (*pôs*) all things, where the *pôs* fairly clearly indicates strong reservations about the form of sameness envisaged (cf. DA 417b22-24, Meta. 1045b21). Further, Aristotle makes plain that although the mind is capable of receiving the form, it is potentially such as the form, although not identical with it (DA 429a15-16). He demonstrates similar circumspection about *aisthêsis*: "These [the objects of perception] and perception are, then, the same, though they differ with respect to being (*to einai*)" (DA 424a25-6). When using such expressions as "the Fs and Gs are the same, although *to einai* F<sub>dat</sub> is not the same as *to einai* G<sub>dat</sub>," Aristotle usually means that even where 'F' and 'G' are extensionally equivalent, accounts of F and G differ, with the result that being-F and being-G are not the same property. Here too Aristotle points out that even if some *aisthêton* or *noêton* is actualized *qua aisthêton* or *noêton* only in a certain kind of mental act, what performs the act and its object are nevertheless numerically distinct.

This is fortunate, since otherwise Aristotle's theory would have intolerable results. If strong isomorphism were true, then on the assumption that two people can think the same object, your intellect could be numerically identical with mine in contemplation. Given the transitivity of identity, if S<sub>i</sub> thinks o, and is therefore numerically identical with o, and S<sub>j</sub> thinks o, then S<sub>i</sub> and S<sub>j</sub> will themselves be numerically identical. This is clearly not the case.

Nonetheless, strong isomorphism was supposed to have the advantage of non-representationalism. Representationalist interpretations of

<sup>31</sup>See Cummins (1989, Ch. 3).

isomorphism (weak isomorphism) ran into difficulties of their own. Hence, there seems to be a certain dilemma for Aristotle. Either he accepts strong or weak isomorphism. If he accepts strong isomorphism, then he commits himself to the absurdity that distinct minds are numerically identical. If he accepts weak isomorphism, then he avoids that result only by embracing a similarity theory, which is manifestly false. Hence, isomorphism is either absurd or manifestly false.

We have seen that Aristotle rejects strong isomorphism. Does this entail that his approach to intentionality is a non-starter? He would be constrained to accept the second horn of this dilemma only if it could be shown that weak isomorphism required similarity for representation. But surely it does not. If we agree antecedently that representation can occur without similarity, and further agree, as against strong isomorphism, that *nous* is the form of its object as a discrete entity representing it, then it is open to us to deny the purportedly unacceptable consequences of weak isomorphism. And if we can accept weak isomorphism, we can look to a development of isomorphism as a grounding for Aristotelian intentionality.

#### VI. Weak Isomorphism and the Distinctness of *Nous*

Reflecting on Aristotle's weak isomorphism, we may be able to come to a deeper appreciation of his conception of the relation of *nous* to the body. The argument, strictly, is an argument for the conclusion that *nous* is not mixed with the body (DA 4229a24-25); it is not an argument for the claim that *nous* is immaterial in any sense approximating substance dualism. The one clear motivation for this conclusion is PR, the plasticity requirement, that *nous* has no intrinsic feature capable of precluding its thinking any given *noëton*. This thesis, in a suitably qualified form, may be defensible. Consequently, Aristotle's conclusion may be both more modest and more plausible than was initially supposed.

It may be more modest in the sense that it amounts to nothing more than the contention that intentional phenomena are not amenable to physicalistic analyses. That is, Aristotle accepts both parts of the thesis of intentionality. In this sense, his claim about mixture may not be the radical doctrine it seemed to be. He merely holds that noetic phenomena are about things (that they have objects) and that no account of this aboutness can be given in bodily terms. Consequently, *nous* will be *choriston logō(i)*: no

account of its activities need be couched in terms of the operations of a body. Indeed, no complete account can be given in purely physicalistic terms, since no physicalistic analysis of aboutness can be advanced.

Although deflationary to a point, Aristotle's claim is not merely that no such account has been provided. It is rather the stronger claim that no such account can be given. Now, because he is, on this interpretation, arguing for a comparatively modest thesis, Aristotle need not offer any aggressively anti-physicalistic argument. Still, even the modest conclusion is strong enough.

The resources of weak isomorphism provide the following approach. *Nous* satisfies PR, the plasticity requirement, at least in the sense that there is an infinite number of things *nous* can think. Each instance of *noësis* involves a *paschein ti*, a suffering something, or a being affected in a certain way—or at any rate a being affected after a fashion. This being affected may be either a change from potentiality to a first actuality, in learning, or a change from first to second actuality, when a thinker moves from dispositionally to occurrently knowing *p*. In either case, a certain change is effected. When a thinker suffers something in the sense of changing from potentially knowing *p* to actually knowing *p* (so, to acquiring *p* as a first actuality), weak isomorphism entails that that thinker acquires a new structure. If that thinker's *nous* is already structured, it will be precluded from coming to acquire the structure of the *noëton* whose structure it already has. Moreover, if it is actually structured in a permanent way, then *nous* will be compositionally rigid rather than compositionally plastic.

Now, Aristotle presumes that if *nous* is mixed with the body it will necessarily be structured in a certain way. More precisely, he thinks that if *nous* is the actuality of a body, it will be in actuality, and hence will be so structured that for some *noëton*, it will already be weakly isomorphic with that *noëton*. Since that *noëton* could not, consequently, cause it to be affected in such a way that it will acquire its structure, *nous* will be cognitively blind relative to that *noëton*. If it is blind to some *noëton*, *nous* cannot think all things; there will be some *noëton* to which *nous* will in principle be precluded from standing in intentional relations. Is so, *nous* will not satisfy PR, and so will not think all things.

In sum, Aristotle seems to have two non-equivalent motivations. On the analogy with *aisthêsis*, we expect *nous* to have an epistemic blind spot if it

is the actuality of a body. If it is the form of a certain body, then it will be actually structured in a definite way. If it is structured in a definite way, then *nous* cannot be made to acquire the structure it already has, and so cannot be affected, even in an attenuated way. That is, *nous* cannot be made to come to exemplify its own structure.

Here there are two worries. First, if this is Aristotle's point, the argument ultimately rests on a remarkably thin observation. Aristotle means to point out that if *nous* is structured, there will be one form it cannot acquire. It will therefore not become that form. Yet if it has that form, it is not clear why it will need to become it in order to think the *noêton* whose form it is.<sup>32</sup> Even waiving that, and granting that there is one thought to which *nous* would be epistemically blind in virtue of its constitution, it may be thought odd to suppose that PR is so secure that we can rely on it to infer that *nous* cannot be so constituted. For, it is hard to see what principle Aristotle could offer in support of PR which would not implicitly appeal to the immateriality of *nous* itself, and hence land him in an unsatisfactory circularity.

Presumably Aristotle might want to respond that if *nous* is the actual structure of a body, its own intrinsic structure not only renders it blind to the *noêton* with which it is isomorphic, but also precludes its receiving other structures. Here PR may seem to go well beyond the analogy with perception by adding another premise. The premise is this: if F is actually structured, then it cannot take on another structure. Yet this is clearly false as regards first actualities, where this seems to be the appropriate level of noetic acquisition (DA 417b1-16). If on the other hand, we understand Aristotle to mean that what is actually contemplating cannot contemplate all things, then his locution is most odd: we should expect him to say directly that what is actually contemplating cannot contemplate more than one thing. We should then be surprised to read that *nous* can think all things. For surely the point would then be not that *nous* can think all things, but that it cannot think of more than one thing at an instant. Hence, it may seem difficult to discern any promising systematic argument for the incorporeality of *nous*, even in the less ambitious sense mentioned.

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<sup>32</sup>Still, this at least helps explain the otherwise perplexing and ill-motivated *aporia* about *nous* coming to think itself at DA 429b26.



Still, there is perhaps one way of developing PR such that it really does provide a good reason for endorsing the second half of the thesis of intentionality, that no purely physical phenomenon is directed upon or makes reference to an object. (This would be the thesis of irreducibility.) PR holds that *nous* can think all things. This does not state or entail that *nous* can adopt an infinite, or even uncountably finite, number of attitudes toward *noëta*. Aristotle frequently enough recognizes various attitudes *nous* is capable of adopting (in *DA* iii 4 these include *ginoskein*, *phronein*, *dianoëisthai*, and *hupolambanein*). If there is no non-intentional way of analyzing intentionality as such (that is, if the first part of the thesis of intentionality is true), then the only way to provide a physicalistically reductive account of intentionality would be to provide individual analyses of each of these states seriatim, and then to try to string them together in some form of "disjunctive" analysis.

Even if we permit disjunctive analyses count as proper analyses, as I doubt we should, the plasticity of the mental renders it highly unlikely that anyone could determine that they had listed and analyzed the last possible type of intentional attitude. Any claim to have found the last intentional attitude would ring hollow ring in the extreme, because such a contention would pretend to have provided a complete, exhaustive taxonomy of all the logically possible types of intentional attitude.

If he wants to argue this way, Aristotle presumes a strong but justifiable principle of plasticity. Wedding this to a principle of weak isomorphism as a component in a non-reductive approach to the intentionality, Aristotle may conclude first that it is not necessary to mention the body in an account of *noësis*, and then more strongly that any account mentioning a body will miss the mark of the mental. We may think that Aristotle overemphasizes PR in offering this argument. Perhaps, but each time we offer a physicalistic analysis of intentionality, something foreign interposes itself, and somehow hinders and wards off our effort.

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